

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph beginning at page5, line 20 with the following amended paragraph.

B1
Traditional video tracking systems include the user zooming in or zooming out until the object is clearly visible within the display and then the user initiates the tracking functionality. Thereafter, the user then selects the target to be tracked by the video tracking system. The present inventors came to the realization that while a workable technique for tracking targets, it is clumsy because by the time the user initiates the tracking functionality and then selects the target, the target may have already moved out of the field of view. This is especially true when the object takes up a significant portion of the display, such as when under extreme zoom. To overcome these limitations the present inventors have developed a new interface for a tracking system. Referring to FIGS. 2 and 3, first the tracking functionality is initialized by any appropriate technique. Next, the target is located, sized, and positioned on an electronic viewfinder 24 for accurately selecting and subsequent tracking. A cursor 42 is generated by the cursor generator 30 and is superimposed on the image in the electronic viewfinder 24. The cursor ~~[[40]]~~ 42 may be in a fixed location in the viewfinder 24 (*e.g.*, centered) and positioned over the image of the target object by movement of the camera which effectively moves the viewfinder image behind the cursor 42. On the other hand, the cursor may be movable and electronically positioned in the viewfinder image by operation of a joystick, touch pad or other pointing device 38 (refer to FIG. 1). A target designator switch 39 facilitates signaling the controller 32 that a target is being designated for tracking. The target designator switch 39 and the pointing device 38 may be combined into a single control element permitting the user to

B 1
conveniently position a movable cursor 42 and designate the target. A movable cursor 42 permits the user to designate target objects that are not centered in the image. To initiate tracking, the user aligns the cursor 42 to superimpose the cursor 42 on the target object and actuates the target designator switch 39. Preferably, the target designator switch 39 and the pointing device 38 are combined by touch sensitive viewfinder 24. In this manner, the user may simply target and select the target to be tracked by a single action. The physical activity used on the video camera for targeting and selecting (*e.g.*, buttons and controls) are preferably different than that used for zooming, which permits the targeting and selecting functions to be placed into a "ready" state. In the case of the touch screen viewfinder 24, while touching the viewfinder 24 may be used for many different functions, after initialing the tracking functionality the touch screen viewfinder's next function is automatically set to targeting and selecting of the target. Accordingly, after zooming a single action of touching the viewfinder 24 screen will perform targeting and selecting in a fast and efficient manner before the target, especially if moving fast, is no longer displayed on the viewfinder 24.

Please replace the paragraph beginning at page 7, line 3 with the following amended paragraph.

B 2
In one embodiment of the present invention, actuation of the target designator switch 39 causes the controller [[36]] 32 to signal the zoom processor 28 to begin zooming. The zoom processor 28 performs the zoom calculation or actuates the zoom motor 34 causing the zoom lens unit 34 to zoom in, magnifying the image in the viewfinder 24. Referring to FIG. 4, the image in the viewfinder 24 is magnified until the target object 44 is easy to view and designate. The user then designates the target object by actuating the target

B²
designator switch 39 for a second time. This may likewise be performed by a touch sensitive viewfinder 24 where after initiating tracking functionality the user touches the screen to start zooming and touches the screen a second time to designate the target. The first zooming may be automatic, if desired. Designation of the target causes the target tracking processor 26 to extract the signals representing a target designated at the location of the cursor (or touch on the screen) from the signals of the image in a scan of the imaging device 12. A target may be identified in any manner. The target tracking processor 26 then "follows" this group of signals representing the target object in subsequent scans of the imaging device 12 to track the target as the video sequence progresses.

Please replace the paragraph beginning at page 7, line 27 with the following amended paragraph.

B³
In another embodiment of the present invention, actuation of the target designator switch 39 causes the controller [[36]] 32 to signal the target tracking processor to initiate tracking and the zoom processor 28 to begin zooming in. When the image of the tentative target is easy to view in the viewfinder 24, the user designates the target object a second time by actuating the target designator switch 39. The target object is tentatively identified for the target tracking processor 26 by the first actuation of the target designator switch 39 but the information about the size and location of the target is refined and verified in the magnified image where the target object is more visible.

Please replace the paragraph beginning at page 8, line 30 with the following amended paragraph.

B4 While tracking a target periodically the target may be obscured or otherwise not visible on the viewfinder 24 for a period of time. This may occur, for example, when another object comes in between the target and the camera for a period of time. When the target is not detected by the target tracking processor, the system may automatically switch into an alternative global tracking motion mode to predict where the object should be. In this manner, when the target is no longer obscured or otherwise not visible on the viewfinder 24 the target tracking processor will have an increased ~~change~~ chance of identifying the target to continue tracking. In this manner, the system is less likely to ~~lose~~ lose track of the target.
